WHAT IS CLAIMED IS:

1. A 2D Rake receiver, comprising:

a control module, for generating, according to a reference signal and the radio signals received by a plurality of antenna elements, multipath information about the radio signals;

a weight factor calculating unit, for calculating the corresponding weight factors of the received radio signals corresponding to different antenna elements, according to the multipath information;

a plurality of 1D Rake receivers, each of which is for receiving radio signals from the corresponding antenna element and weighting the radio signals received by the Rake receiver with the corresponding weight factor;

a combining unit, for combing the weighted radio signals outputted from the plurality of 1D Rake receivers, to output a combined signal.

2. The 2D Rake receiver according to claim 1, wherein every said 1D Rake receiver includes a plurality of Rake fingers, each of which corresponds to the corresponding propagation path and weights its received radio signals with the corresponding weight factor.

3. The 2D Rake receiver according to claim 2, wherein said multipath information at least includes multipath delay information and multipath amplitude estimation information.

4. The 2D Rake receiver according to claim 3, wherein said weight factor calculating unit calculates the input signals of the corresponding Rake finger in said plurality of 1D Rake receivers according to said reference signal and said multipath information, and calculates said corresponding weight factor of the corresponding Rake finger according to the calculation result and the estimated amplitude of the corresponding Rake finger, wherein the corresponding Rake finger is the Rake finger for receiving radio signals transferred from the same propagation path in said plurality of 1D Rake receivers.

5. The 2D Rake receiver according to claim 4, wherein said weight factor calculating unit calculates the input signals of said corresponding Rake finger by adopting algorithms based on MMSE (Minimum Mean-Squared Error) rule.

6. The 2D Rake receiver according to claim 3, wherein said weight factor calculating unit calculates the input signals of the corresponding Rake finger according to said multipath information and the output signals of the corresponding Rake finger in said plurality of 1D Rake receiver, and calculates said corresponding weight factor of the corresponding Rake finger according to the calculation result and the estimated amplitude of the corresponding Rake finger, wherein said corresponding Rake finger is the Rake finger for receiving radio signals transferred from the same propagation path in said plurality of 1D Rake receivers.

7. The 2D Rake receiver according to claim 6, wherein said weight factor calculating unit calculates the input signals of said corresponding Rake finger with blind adaptive algorithm.

8. The 2D Rake receiver according to any one of the foregoing claims, wherein said control module generates synchronization control information according to said reference signal and the radio signals received by said plurality of antenna elements, the 2D Rake receiver further comprising:

a plurality of first-level buffers, for synchronizing the radio signals received by said plurality of antenna elements according to the synchronization control information, so that the radio signals inputted into said plurality of 1D receivers can maintain synchronization.

9. The 2D Rake receiver according to claim 8, wherein said reference signal is downlink synchronization code and midamble code.

10. The 2D Rake receiver according to claim 8, wherein said reference signal is pilot information and spreading code.

11. A method for 2D Rake processing the received radio signals, comprising steps of:

(a) generating, according to a reference signal and the radio signals received by a plurality of antenna elements, the multipath information about the radio signals;

(b) calculating the corresponding weight factor of the received radio signals corresponding to the plurality of antenna elements according to the multipath information;

(c) weighting the radio signals received by a plurality of Rake fingers from the plurality of antenna elements, according to the corresponding weight factor;

(d) combining the weighted radio signals outputted from the plurality of Rake fingers to output a combined signal.

12. The method according to claim 11, wherein said multipath information at least includes multipath delay information and multipath amplitude estimation information.

13. The method according to claim 12, wherein step (b) includes:

(b1) calculating the input signals of the corresponding Rake finger in said plurality of Rake fingers according to said reference signal and said multipath information, wherein the corresponding Rake finger is the Rake finger for receiving radio signals transferred from the same propagation path;

(b2) calculating said corresponding weight factor of the corresponding Rake finger according to the calculation result and the estimated amplitude of the corresponding Rake finger.

14. The method according to claim 13, wherein algorithms based on MMSE rule are adopted to calculate the input signals of said corresponding Rake fingers.

15. The method according to claim 12, wherein step (b) includes:

(b1) calculating the input signals of the corresponding Rake finger according to said multipath information and the output signals of the corresponding Rake finger in said plurality of Rake fingers, wherein the corresponding Rake

finger is the Rake finger for receiving radio signals transferred from the same propagation path;

(b2) calculating said corresponding weight factor of the corresponding Rake finger according to the calculation result and the estimated amplitude of the corresponding Rake finger.

16. The method according to claim 15, wherein the input signals of said corresponding Rake finger are calculated with blind adaptive algorithm.

17. The method according to any one of claim 11 to 16, further comprising steps of:

generating synchronization control information according to said reference signal and the radio signals received by said plurality of antenna elements;

synchronizing respectively the radio signals received by said plurality of antenna elements according to the synchronization control information, so that the radio signals inputted into said plurality of Rake fingers can maintain synchronization.

18. The method according to claim 17, wherein said reference signal is downlink synchronization code and midamble code.

19. The method according to claim 17, wherein said reference signal is pilot information and spreading code.

20. A mobile terminal, comprising:

a plurality of antenna elements, each of which is for receiving and transmitting radio signals;

a 2D Rake receiver, for receiving radio signals from the plurality of antenna elements, and weighting and combining the radio signals received by the plurality of antenna elements into an output signal;

a baseband MODEM unit, for baseband demodulating the output signals of the 2D Rake receiver, and baseband modulating the signals to be transmitted and then transmitting them via the antenna elements.

21. The mobile terminal according to claim 20, wherein said 2D Rake receiver includes:

a control module, for generating, according to a reference signal and the radio signals received by said plurality of antenna elements, multipath information about the radio signals;

a weight factor calculating unit, for calculating the corresponding weight factor of the received radio signals corresponding to different antenna elements;

a plurality of 1D Rake receiver, each of which is for receiving radio signals from the corresponding antenna elements and weighting the radio signals received by said Rake receiver with the corresponding weight factor;

a combining unit, for combing the weighted radio signals outputted by the plurality of 1D Rake receivers, to output a combined signal.

22. The mobile terminal according to claim 21, wherein said multipath information at least includes multipath delay information and multipath amplitude estimation information.

23. The mobile terminal according to claim 22, wherein said weight factor calculating unit calculates the input signals of the corresponding Rake finger in said plurality of 1D Rake receivers according to said reference signal and said multipath information, and calculates said corresponding weight factor of the corresponding Rake finger according to the calculation result and the estimated amplitude of the corresponding Rake finger, wherein the corresponding Rake finger is the Rake finger for receiving radio signals transferred from the same propagation path in said plurality of 1D Rake receivers.

24. The mobile terminal according to claim 23, wherein said weight factor calculating unit calculates the input signals of said corresponding Rake finger with algorithms based on MMSE rule.

25. The mobile terminal according to claim 22, wherein said weight factor calculating unit calculates the input signals of the corresponding Rake finger according to said multipath information and the output signals of the corresponding Rake finger in said plurality of 1D Rake receivers, and calculates said corresponding weight factor of the corresponding Rake finger according to the calculation result and the estimated amplitude of the corresponding Rake finger, wherein the corresponding Rake finger is the Rake finger for receiving radio signals transferred from the same propagation path in said plurality of 1D Rake receivers.

26. The mobile terminal according to claim 25, wherein said weight factor calculating unit calculates the input signals of said corresponding Rake finger with blind adaptive algorithm.